Chapter 11

Summary of Layer 3 VPN Configuration Statements

The following sections explain the major routing-instances configuration statements that apply specifically to Layer 3 virtual private networks (VPNs). The statements are organized alphabetically. Routing instances and the statements at the [edit routing-instances *routing-instance-name* routing-options] and [edit routing-instances *routing-instance-name* protocols] hierarchy levels are explained in the *JUNOS Internet Software Configuration Guide: Routing and Routing Protocols*.

description

Syntax description *text*;

Hierarchy Level [edit routing-instances *routing-instance-name*]

Description Allows you to provide a textual description for the routing instance. Enclose any descriptive text that includes spaces in quotation marks (" "). Any descriptive text you include is displayed in the output of the show route instance detail command and has no effect on the operation of the routing instance.

Usage Guidelines See "Configure the Description" on page 86.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

inet6-vpn

Syntax inet6-vpn {unicast | multicast | any } {...}

Hierarchy Level [edit protocols bgp group *group-name* family]

Description Enables IPv6 on the PE router for the Layer 3 VPN.

Options prefix-limit maximum—Specify the maximum prefix limit. The value can be from 1 to 4,294,967,295.

rib-group—Specify the name of the routing table group.

Usage Guidelines See "Configure IPv6 between the PE and CE Routers" on page 102.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

instance-type

Syntax instance-type vrf;

Hierarchy Level [edit routing-instances *routing-instance-name*]

Description Defines the type of routing instance.

Options vrf—VPN routing and forwarding instance. Required to create a VPN. Creates a VPN routing and forwarding (VRF) table (*instance-name*.inet.0), which contains the routes originating from and destined for a particular VPN. You must configure the interface, route-distinguisher, vrf-import, and vrf-export statements for this type of routing instance.

Usage Guidelines See "Configure the Instance Type" on page 86.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

interface

Syntax interface *interface-name*;

Hierarchy Level [edit routing-instances *routing-instance-name*]

Description Interface over which the VPN traffic travels between the provider edge (PE) router and customer edge (CE) router. You configure the interface on the PE router. If the instance type is vrf, the interface statement is required.

Usage Guidelines See "Configure Interfaces for VPN Routing" on page 86.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

route-distinguisher

Syntax route-distinguisher (*as-number*:*number* | *ip-address*:*number*);

Hierarchy Level [edit routing-instances *routing-instance-name*]

Description Identifier attached to routes that distinguishes to which VPN it belongs. Each routing instance must have a unique route distinguisher associated with it. If the instance type is vrf, the route-distinguisher statement is required.

If you configure the route-distinguisher-id statement at the [edit routing-options] hierarchy level, a type 1 route distinguisher is automatically assigned to VRF routing instances. For more information, see the *JUNOS Internet Softw are Configur ation Guide: R outing and Routing Protocols*.

The route distinguisher is a 6-byte value that you can specify in one of the following formats:

as-number:*number*, where *as-number* is your assigned autonomous system (AS) number (a 2-byte value) and *number* is any 4-byte value. The AS number can be in the range of 1 through 65,535.

ip-address:*number*, where *ip-address* is an IP address in your assigned prefix range (a 4-byte value) and *number* is any 2-byte value. The IP address can be any globally unique unicast address.

Usage Guidelines See “Configure the Route Distinguisher” on page 21.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

route-distinguisher-id

Syntax route-distinguisher-id *ip-address*;

Hierarchy Level [edit routing-options]

Description When configured, a route distinguisher is automatically assigned to the routing instance. If you configure the route-distinguisher statement in addition to the route-distinguisher-id statement, the value configured for route-distinguisher supersedes the value generated from route-distinguisher-id.

Usage Guidelines See “Configure the Route Distinguisher” on page 21.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

vpn-apply-export

Syntax vpn-apply-export;

Hierarchy Level [edit protocols bgp]
[edit protocols bgp group *group-name*]
[edit protocols bgp group *group-name* neighbor *neighbor*]

Description Applies both the VRF export and BGP group or neighbor export policies (VRF first, then BGP) before routes are advertised in the vrf or l2vpn routing tables to other PE routers.

Usage Guidelines See "Apply Both the VRF Export and the BGP Export Policies" on page 92.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

vrf-export

Syntax vrf-export [*policy-names*];

Hierarchy Level [edit routing-instances *routing-instance-name*]

Description How routes are exported from the local PE router's VRF table (*routing-instance-name*.inet.0) to the remote PE router. If the instance type is vrf, the vrf-export statement is required.

Options You can configure multiple export policies on the PE router.

Usage Guidelines See "Configure Export Policy for the PE Router's VRF Table" on page 91.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

vrf-import

Syntax vrf-import [*policy-names*];

Hierarchy Level [edit routing-instances *routing-instance-name*]

Description How routes are imported into the local PE router's VRF table (*routing-instance-name*.inet.0) from the remote PE router. If the instance type is vrf, the vrf-import statement is required.

Options You can configure multiple import policies on the PE router.

Usage Guidelines See "Configure Import Policy for the PE Router's VRF Table" on page 90.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

vrf-table-label

Syntax vrf-table-label;

Hierarchy Level [edit routing-instances *routing-instance-name*]

Description Makes it possible to map the inner label of a packet to a specific VRF and thus allows the examination of the encapsulated IP header.

Usage Guidelines See “Filter Traffic Based on the IP Header” on page 94.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.

vrf-target

Syntax vrf-target;

Hierarchy Level [edit routing-instances *routing-instance-name*]

Description Configure a single policy for import and a single policy for export to replace the per-VRF policies for every community.

Options import—Specifies the allowed communities to accept from neighbors.

export—Specifies the allowed communities to send to neighbors.

Usage Guidelines See “Configure a VRF Target” on page 93.

Required Privilege Level routing—To view this statement in the configuration.
routing-control—To add this statement to the configuration.